

KAZARNOVSKIY, D.S.; DYUBIN, N.P.; GERSHGORN, M.A.; KRAVTSOVA, I.P.;
KLIMOV, K.N.; RUDOL'SKIY, N.L.; PRADIN, M.D.; SVIRIDENKO, F.F.;
PRADINA, M.G.; ZANNES, A.N.; CHERNOVA, A.V.

Experimental railroad rails made of chromium-nickel native
alloy steel. Stal' 22 no.6:548-550 Je '62. (MIRA 16:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov i
zavod "Azovstal'".

(Chromium-nickel steel)
(Railroads--Rails)

ZANNES, A.N., inzh.; RUDOL'SKIY, N.L., inzh.; FRADIN, M.D., inzh.;
SAPELKINA, O.R., inzh.; BIKHUNOV, L.Ya., inzh.; GLOZMAN, M.I.,
inzh.; Primali uchastiye; DEMICHEV, A.D.; SUCHKOUSOV, V.P.;
BLAGOVESHCHENSKIY, G.V.; GOLOVIN, G.F.; KAZARNOVSKIY, D.S.;
RAVITSKAYA, T.M.

Surface induction hardening of rails along their whole
length at the Azovstal' Plant. Stal' 24 no.8:731-734
Ag '64.

(MIRA 17:9)

1. Nauchno-issledovatel'skiy institut tokov vysokoy chastoty
(for Demichev, Suchkousov, Blagoveshchenskiy, Golovin).
2. Ukrainskiy nauchno-issledovatel'skiy institut metallov
(for Kazarnovskiy, Ravitskaya).

VEKSER, N.A.; KAZARNOVSKIY, D.S., kand. tekhn. nauk

Investigating the causes of the formation of defects on the
rolling surface of all-rolled railroad wheels and ways of
improving their quality. Sbor. trud. UNIIM no.9:338-348 '64
(MIRA 18:1)

KAZARNOWSKIY, D.S., doktor tekhn.nauk (Khar'kov)

Improving the quality of rails. Put' 1 put.khoz. 9 no.4:15-17
165.

(MIRA 18:5)

EXPLANATION: The following information is being provided to you for your information.

Subject: (Name) (Address) (City) (State) (Zip).
Date: (Date) (Time) (Day) (Month) (Year).

1. (Name) (Address) (City) (State) (Zip). (MIRA 1218)

ZANNES, A.N.; KAZARNOVSKIY, D.S.; SAFELKINA, O.R.; MIGOL', G.N.

Experiments in selecting the optimum quenching medium for
hardening rails along their entire length with heating
by high frequency currents. Sber.trud. UNIM no. 11,354-364
165. (MIRA 18.11)

GERSHGORN, M.A.; KRAVTSOVA, I.P.; KAZARNOVSKIY, D.S., kand. tekhn. nauk;
RYABININ, B.G.

Manganese Bessemer steel for rails. Met. i gornerud. prom. no.5;
23-26 S-O '64. (MIRA 18:7)

RAVITSKAYA, T.M.; KAZARNOVSKIY, D.S.; Prinimali uchastiye: KLIMENKO, A.N.;
FADEYEVA, A.M.

Mechanism of the formation of defects of contact origin
in rail heads. Sbor. trud. UNIIM no.11:324-333 '65.

(MIRA 18:11)

L 13051-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD
ACC NR: AP5027912

SOURCE CODE: UR/0133/65/000/011/1036/1039

AUTHOR: Kazarnovskiy, D. S. (Doctor of technical sciences); Dryapik, Ye. P. (Engineer); Legeyda, N. F. (Engineer); Zakharov, A. Ye. (Engineer); Balon, V. I. (Engineer); Vol'ter, Ye. V. (Engineer); Nosov, V. S. (Engineer); Konstantinova, T. A. (Engineer); Sukhomlina, A. P. (Engineer)

ORG: Ukrainskiy n.-i. Institute of Metals (Ukrainskiy n.-i. institut metallov); Kommunarskiy Metallurgical Plant (Kommunarskiy metallurgicheskiy zavod)

TITLE: Strengthening of low carbon semikilled St. 3ps steel by heat treatment

SOURCE: Stal', no. 11, 1965, 1036-1039

TOPIC TAGS: carbon steel, low carbon steel, heat treating furnace

ABSTRACT: A heat treatment was developed for St. 3ps steel plates of 12 and 25 mm thickness by heating in a furnace to the temperature range 890-920°C and water cooling on a quench press. This treatment resulted in an average strengthening of 20% and a satisfactory plasticity level. Three separate heats of steel were heat treated. The compositions ranged as follows: C--0.16-0.19%; Mn--0.46-0.52%; Si--0.08-0.12%; S--0.036-0.042%; P--0.012-0.034% and Cu--0.050-0.058%. The details of the process were described. The steel plates were heated in a roller type furnace to temperature for a holding time of 1.5 min/mm. Cooling was done in a quench press with a water flow

Card 1/2

UDC: 621.78

L 13051-66

ACC NR: AP5027912

rate of 1700 m³/hr. After quenching, some warpage could be noted, particularly in thicknesses up to 20 mm. Mechanical properties of the heat treated plate in flat and round specimens were determined. Yield strength, ultimate strength, % elongation, % reduction in area and impact resistance were tabulated for heat I (12 mm thick), heat II (12 and 25 mm thick) and heat III (25 mm thick). Frequency curves were plotted for the mechanical properties of the heat treated plate (frequency of occurrence as a function of strength, ductility and impact resistance) and average values were given for these properties. The effect of tempering after quenching was also noted. In general, the strength decreased slightly and the ductility increased. Tempering had little effect on impact resistance. Microstructures showed that the structures after quenching were predominantly pearlitic-ferritic, with needle-like ferrite distributed along grain boundaries for the 12 mm thick plates while in the 25 mm thick plates there was smaller grained, needle-like ferrite. The highest strengths and lowest ductility were obtained in the 12 mm plate. However, the mechanical properties obtained never fell below the following levels for the heat treated condition: yield stress--30 kg/mm², ultimate strength--44 kg/mm², % elongation--16, and impact strength (at -40°C)--3 kgm/cm². It was recommended that low carbon steel plate, strengthened by the above treatment, be used in place of low alloyed steel. (To be effective the optimum carbon content for heat treatment should be 0.12-0.18%. Orig. art. has: 3 figures 2 tables.

SUB CODE: 11/

SUBM DATE: 00/

ORIG REF: 004/

OTH REF: 000

Card 2/2

KAZARNOVSKIY, D.S., doktor tekhn. nauk; GERSHGORN, M.A., inzh.; SVIRIDENKO, F.F., inzh.; KRAVTSOVA, I.P., inzh.; SHNAPERMAN, L.Ya., inzh.

Development, adoption, and introduction of a low-alloy steel for heavy type railroad rails. Stal' 25 no.4:355-357 Ap '65. (MIRA 18:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov i zavod "Azovstal'".

PRIDANTSEV, M.V.; KAZARNOVSKIY, D.S.; DANILOV, V.N.; VEKSER, N.A.;
NIKONOV, A.G.; BYKOV, N.F.

Isothermal treatment of rails. Stal' 25 no.4:358-361 Ap '65.
(MIRA 18:11)

GERSHGORN, M.A.; SVIRIDENKO, F.F.; KAZARNOVSKIY, D.S.; KRAVTSOVA, I.P.;
POPOVA, A.N.; FRADINA, M.G.; Prinsipali uchastiye: ILYUSHIN, G.G.;
RUDOL'SKIY, N.L.; SLEPKANOV, N.P.; PLISKANOVSKIY, S.T.; GORBANEV,
Ya.S.; BUL'SKIY, M.T. [deceased]; ARKHANGEL'SKIY, Yu.N.; SHAROV,
B.A.; VISTOROVSKIY, N.T.; RAKHANSKIY, B.I.; SAPOZHNIKOV, V.Ye.;
RYABININ, N.G.; KARAKULINA, R.R.; FADEYEVA, A.M.; ZVEREV, D.A.

Improving the production of high-strength rails by alloying
them with granulated ferrochromium in the ladle. Stal' 25
no.5:408-411 My '65.

(MIRA 18:6)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov i zavod
"Azovstal'".

ACC NR: AP6035654

(A) SOURCE CODE: UR/0133/66/000/011/1028/1029

AUTHOR: Kazarnovskiy, D. S. (Professor, Doctor of technical sciences);
Gunin, I. V. (Candidate of technical sciences); Krivono ov, Yu. I.
(Candidate of technical sciences); Kravtsova I. P. (Candidate of tech-
nical sciences); Saprygin, Kh. M. (Candidate of technic.l sciences);
Arshavskiy, V. Z. (Candidate of technical sciences); Chatverikov, A. V.
(Engineer); Mogilevskiy, I. I. (Engineer); Orinichev, I. (Engineer)

ORG: none

TITLE: Production technology for high-strength rails

SOURCE: Stal', no. 11, 1966, 1028-1029

TOPIC TAGS: high strength steel,
metal cladding, railway track, bimetal, hot rolling/M75X steel,
G13 steel, Rk5 steel, St.5 STEEL

ABSTRACT: An investigation had been made to develop a process for pro-
ducing bimetallic rails, i.e. rails with a high-strength steel head.
St.5 steel billets clad with M75X, G13, or Rk5 alloy steels were hot-
rolled into 100 x 150 mm bars which, after reheating, were rolled into
R-18 type rails. Rails with arc-deposited cladding had the highest bond
strength and the most satisfactory surface quality. With M75X or Rk5-
steel cladding, satisfactory results were obtained with cast composite

Card 1/2

UDC: 621.771.26

Card 2/2

BLOKHIN, V., konstruktor; KAZARNOVSKIY, F., konstruktor

The SK-4 combine. Sel'mekh. no.3:44-45 '62.

(MIRA 15:3)

1. Kombaynovyy zavod, gor. Taganrog.
(Harvesting machinery)

DANILOV, V.I. [Danylov, V.I.]; CHURSIN, M.I.; GAVRILOV, V.P.; KAZARNOVSKIY,
(F.A. [Kazarnovs'kyi, F.A.]

Special problems of operating the electric equipment of SK-3 combines.
Mekh. sil'.hosp. 11 no.8:10-14 Ag '60. (MIRA 13:9)

1. Rabotniki Spetsial'nogo konstruktorskogo byuro zavoda "Rostsel'-
mash" (for Danilov, Chursin). 2. Rabotniki DSKB pri Taganrogskom
kombaynovom zavode (for Gavrilov, Kazarnovskiy).
(Combines (Agricultural machinery)-- Electric equipment)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721330003-2

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721330003-2"

SHCHERBAKOV, D.I., akademik; FRUMKIN, A.N., akademik; KHACHATUROV, T.S.;
VINOGRADOV, A.P., akademik; SOBOLEV, S.L., akademik; KOSTENKO, M.P.,
akademik; TOLSTOV, S.P.; SAZHIN, N.P.; KAZARNOVSKIY, I.A.; VUL, B.M.;
TROFIMUK, A.A., akademik

Discussion of the annual report. Vept. AN SSSR 33 no.3:25-34
Mr '63. (MIRA 16:3)

1. Chleny-korrespondenty AN SSSR (for Khachaturov, Tolstov, Sazhin,
Kazarnovskiy, Vul).

(Academy of Sciences of the U.S.S.R.)

Kazarnovskiy, I.

Kazarnovskiy, I. and Proskurnin, M.

(Karnov Inst. for Chem., Moscow)

Z. Physik. 43, 512-5 (1927)

CA: 21-3253/1

The electron affinity of hydrogen and the density of the alkali hydrides.

Kazarnovskiy, I.

Proskurnin, M. and Kazarnovskiy, I.

(Karpov Inst. Chem., Moscow)

Z. anorg. allgem. Chem. 170, 301-10 (1928)

Salt-like hydrides. III.

CA: 22-3851/8

Kazarnovskiy, I.
(Karpov Inst. for Chem., Moscow)
Z. anorg. Chem. 170, 311-9 (1928)
Salt-like hydride. IV.

CA: 22-3343/6

CA

2

STRUCTURE OF INORGANIC PEROXIDES. I. A. Kazarovskii. J. PHYS. CHEM. (U.S.S.R.) 1, 93-8 (1930).—A review of the possible existence of asym. mols. of H_2O_2 in which the bond of the second O atom with the H_2O mol. is realized by purely polarization forces. Calcul. reveals that the stability of the bond cannot exceed approx. 0.58 kg.-cal. but expty. the stability proved to be about a 100 times as large. If the possibility of the polar bond of the O with the gen. of O is neglected the asym. formula for H_2O_2 is impossible.

F. 4. Nathmann

ASB.11A METALLURGICAL LITERATURE CLASSIFICATION

Kazarnovskiy, I. A.

(Karpov Inst., Moscow)

Trans. Karpov Inst. Chem. (Moscow) 2, 93-98 (1930); Chem. Zentr. 1930II,
1675-76.

Structure of inorganic peroxides.

Kazarnovskiy, I.

(Karpov Inst., Moscow)

Z. Physik. 61, 236-8 (1930)

Lattice energy and compressibility of alkali hydrides.

CA: 24-4199/4

PROCESSING AND PREPARATION OF

↓ Treating waste products obtained in cracking with aluminum chloride. I. A. Kazarnovskii, G. F. Komovskii, V. P. Kotor and M. M. Konstantinov. Russ. 34,073, March 31, 1934. Waste products obtained in cracking with $AlCl_3$ are repeatedly extd. with dil. HCl to dissolve $FeCl_3$ and $AlCl_3$. The concd. soln. is freed of Fe by electrolysis with C anodes and Fe or Cu cathodes, the anodic space being sep'd. from the cathodic by diaphragm. The following operation conditions are specified: (1) The temp. must not exceed 40° . (2) The best c. d. at the cathode is about 70 amp./sq. m.; a higher c. d. increases the current consumption, while lower c. d. do not produce the required degree of refining. (3) A thorough circulation of the electrolyte is essential.

ASB-5.4 METALLURGICAL LITERATURE CLASSIFICATION

<p>14</p> <p>Preliminary communications and discussion. Is there a trioxide of potassium? B. I. Raikhshteyn and I. A. Kazarnovskiy. <i>J. Phys. Chem.</i> (U. S. S. R.) 11, 701 (1955). The existence of K_2O_3 was investigated by measuring its dissociation point and that of its products of thermal disintegration up to K_2O. It was found that even the first measurements of the thermal disintegration kinetics at 300° and 0.1 mm. pressure pointed to the fact that K_2O_3 is not an individual compound but is a mixt. of K_2O with K_2O_2. The curve is smooth and no bend is found at the point corresponding to K_2O. W. R. Himm</p>																									
<p>ASO-11-A DETAILORUMAL LITERATURE CLASSIFICATION</p> <p>ISSUE 170 BAKER</p> <p>RECORD NO. 1</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26</p>																									

1ST AND 2ND DEGREE										3RD AND 4TH DEGREE									
PROCESSING AND PROPERTIES INDEX																			
<p><i>CA</i></p> <p>Structure of inorganic peroxide. I. A. Kammerer, <i>J. Phys. Chem.</i> (U. S. S. R.) 14, 830-81 (1940). — A review is given of the help rendered by phys. calcns. (e. g., of the energy of a bond) and measurements (e. g., of the Raman spectrum) to the investigation of the structure of H_2O_2, Na_2O_2, and K_2O_2. B. C. F. A.</p>										<p>2</p>									
<p>Lab. Inorganic Chem., Moscow Phys.-Chem. Inst. in. Karpov -</p>																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
10000 STUDY										10000 HLT DIV USE									
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10000 #1										10000 HLT DIV USE									

Handwritten:
Nuclear Sci. Lib.
V-8, Jan 15, 1954
Chemistry

INORGANIC PEROXIDES. 11. THE HIGHER OXIDES OF POTASSIUM. I. A. Kazarnovskii and S. I. Raikhshtein.

Translated by Bonnie [E.] Cushman from *Zhur. Fiz. Khim.*, 21, 245-55 (1947) 16p. (UCHL-Trans-89; AEC-tr-1029)

The oxides KO_2 , RbO_2 , and CsO_2 and the molecular ion O_2^- were examined. Tensimetric investigations and density and refractive measurements showed that only three oxides of K exist: K_2O , K_2C_2 , and KO_2 . The K_2O_2 reported by some investigators is a mixture of K_2O_2 and KO_2 . The crystal structures of KO_2 , RbO_2 , and CsO_2 were determined. The heat of formation of K_2O_2 was found to be 117.0 kcal. (J.S.R.)

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4
chem
(2)

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7-27-54

KAZARNOVSKIY, I. A.

Pa-2749

Mar 1947

USSR/Physical Chemistry - Apparatus Elasticity Measurements

"An Apparatus for Determination of Dissociation Pressure," S I Raikhshtein, and
I A Kazarnovskiy, 4 pp

"Zhurn Fiz Khim" Vol XXI, No 3

Diagrams and operating data of subject equipment for elasticity measurements in dissociation
of hard substances

KAZARNOVSKIY, I. A. and Raykhshteyn, S. I.

"Higher Oxides of Potassium," 1948 Mendeleev Prize

Vestnik AS USSR 3/50

1.-12748

157 AND 158 600(1)

PROCESSES AND PROPERTIES INDEX

3

Electron affinity of the oxygen molecule. 1. A. Kazanovskii (Karpov. Phys. Chem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 59, 67-70(1948). In order to det. the electron affinity E of O_2 by the Born-Haber cycle applied to KO_2 , RbO_2 , and CaO_2 , the lattice energies U were computed as the sums of the electrostatic energy, van der Waals energy, quadrupole energy of the O_2 ion, and the energy of ionic repulsion. The Madelung constants are found = 1.076, 1.077, and 1.083, resp.; the electrostatic energies = 195.1, 185.5, and 177.9 kcal./mole, resp.; the van der Waals energies = 13.7, 14.5, and 10.6, resp. The quadrupole potentials were calcul. on the assumption of an elongated rotation ellipsoid shape for the O_2 ion with a point charge in the center; with a quadrupole moment of 3×10^{-26} , the quadrupole energy is found = 0.5, 5.5, and 4.4 kcal./mole, resp. The energies of repulsion are -43.7, -43.9, and -42.2 kcal./mole, resp. Hence, U = 168.0, 161.6, and 170.6 kcal./mole, resp., and, with the literature data for the energies of formation, sublimation, and ionization, E = 21.6, 23.0, and 22.3 kcal./mole, resp., mean value E = 22.3 \pm 1.5. The possible error, mainly on the energy of repulsion, is estim. at not over 10 kcal./mole. N. Thon

ASB 11.4 METALLURGICAL LITERATURE CLASSIFICATION

KAZARNOVSKIY, I. A.

USSR/Chemistry - Potassium Oxides
Chemistry - Potassium Hydroxide

Jan 49

"Inorganic Peroxides, XI, The Higher Oxides of Potassium," I. A. Kazarnovskiy and
S. I. Raikhshtein, 9 pp.

Zhurn. Fiz. Khim., Vol. XXI, No. 3

Theoretical discussion and experimental data with graphs and tables.

2T47

KAZARNOVSKIY, I. A.

PA 26/49T9

USSR/Chemistry - Potassium Oxides
Chemistry - Potassium Hydroxide

Jan 49

"New Potassium Oxides," I. A. Kazarnovskiy, Corr
Mem, Acad Sci USSR, G. P. Nikol'skiy, T. A.
Abletsova, Lab Inorg Chem, Physicotech Inst imeni
L. Ya. Karpov, 4 pp

"Dok Ak Nauk SSSR" Vol LXIV, No 1 *pp. 67-72*

Investigated reaction of ozone on potassium
hydroxide, and established characteristics of the
orange substance forming during this reaction
after finding it soluble in liquid ammonia. Sub-
mitted 15 Nov 48.

26/49T9

KAZARNOVSKIY, I. A. and Markhshteyn, S. I.

"Apparatus for Determining the Resistance of This Association," 1947: endeloyev
prize.

Vestnik AS USSR 3/50
W-12746

CA

2

Anomalous magnetic properties of peroxides. A. B. Nelding and L. A. Katarjovskii (Karpov Phys.-Chem. Inst., Moscow). *Zhur. Fiz. Khim.* 24, 1407-8 (1950); cf. *C.A.* 43, 1827g. — The magnetic susceptibilities of 2 yellow microcryst. powders contg. 80-91% NaO_2 were measured by the Gouy method (1800 to 11,000 oersteds) between 18 and -196° (error $\pm 1.5\%$). The susceptibility presents a distinct max. at -80° . The value of μ_{eff} decreases from 2 magnetons at -80° to 0.9 at -196° . This is typical for antiferromagnetism, but in this case it would be due to O_2^- anions which are almost in contact with each other in the rock-salt structure of NaO_2 (Templeton and Paulsen, *C.A.* 44, 7117c). Further investigations are contemplated (susceptibility, heat capacity, x-ray structure at low temp.).
Michel Boudart

127

17218

USSR/Chemistry - Hydrogen Peroxide 1 Oct 50

"Magnetic Susceptibility and Structure of Hydrogen Peroxide," A. B. Meyling, Corr Mem, Acad Sci USSR, I. A. Kazarnovskiy, Physicochem Inst Imeni L. Ya. Karpov

"Dok Ak Nauk SSSR" Vol LXXIV, No 4, pp 735-738

Detd magnetic susceptibility at concn 6-98% at room temp and of 98% pure solid substance in temp range 5-183°. At high concn, straight-line relationship exists between concn and magnetic susceptibility. Magnetic data do not confirm existence of special hydrogen peroxide modification below -110°. That substance is diamagnetic excludes formula $H_2O \cdots O$

17218

USSR/Chemistry - Hydrogen Peroxide (Contd) 1 Oct 50

and that based on oxygen mol. Present results indicate similarity of electronic structure of O-O in hydrogen peroxide and metal peroxides. Correlation of magnetic and x-ray data shows equivalence of both O atoms in hydrogen peroxide.

17218

17218

KAZARNOVSKIY, I.A.

185T6

USSR/Chemistry - Oxidants

Mar 51

"Heat of Formation of Potassium Superoxide KO_2 ,"
L. I. Kazarnovskaya, I. A. Kazarnovskiy, Physico-
chem Inst imeni L. Ya. Karpov, Moscow

"Zhur Fiz Khim" Vol XXV, No 3, pp 293-295

Measured heat of soln of KO_2 in dil H_2SO_4 . From
results of measurements, calcd std heat of for-
mation of KO_2 from elements by reaction K
+ $O_2(gas) = KO_2(solid)$ to be 67.9 ± 0.1 (solid)
kcal.

185T6

KAZARNOVSKII, I. A.

Author: Nikol'skii, G. P., Bagdasar'yan, Z. A., and Kazarnovskii, I. A.

Title: Ozonides of sodium, rubidium and caesium.

Journal: Doklady Akademii Nauk SSSR, 1951, Vol. 77, No. 1, p. 69.

Subject: Chemistry

From: D.S.I.R. Oct 51

KAZAROVSKIY, I. A.

184TT11

USSR/Chemistry - Oxidants

1 Jun 51

"On the Nature of the Higher Silver Oxide," A. B. Meyding, I. A. Kazarnovskiy, Corf. Méth. Acad. Sci. USSR, Lab. Inorg. Chem., Physicochem. Inst. Imen. L. Ya. Karpov.

"Dok Ak Nauk SSSR" Vol. LXXVIII, No. 4, pp 713-716

Change of Ag to higher valency (AgO) involves transition $4d^{10}s \rightarrow 4d^9s^2p$. AgO is diamagnetic in solid state, because Ag is trivalent in crystal lattice as result of formation of Ag-Ag bonds. Brown soln of AgO in concd nitric acid contains divalent silver, though, which is paramagnetic

184TT11

USSR/Chemistry - Oxidants (Contd)

1 Jun 51

due to presence of unpaired electrons corr to 3d bond in the solid. AgO is not peroxide: It does not form hydrogen peroxide on acidification. It does distinguished from peroxides, AgO exerts oxidative effect due to change in valency of silver.

184TT11

1. NEYDING, A. B.; KAZARNOVSKI'Y, I.A.
2. USSR (600)
4. Peroxides
7. Magnetic susceptibility and structure of peroxides. Zhur.fiz.khim. 26 no.8, 1952.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

KAZARNOVSKIY. I. A.

Oct 52

USSR/Chemistry - Hydrogen Peroxide

"Investigating the Decomposition Mechanism of Hydrogen Peroxide in Some Solid
Perhydrates," I.A. Kazarnovskiy, Corr Mem, Acad Sci USSR, and A.B. Neyding

Physicochem Inst im L. Ya. Karpov

DAN USSR, Vol 86, No 4, pp 717-720

The mechanism of the decompn of $K_2O_2 \cdot 2H_2O_2$ was studied and found to follow the eq
 $K_2O_2 \cdot 2H_2O = 2KO_2 + 2H_2O$.

Source #264T16

KASARNOVSKIY, I. A., BAGDASARYAN, Z. A. and LIPIKHIN, N. P.

"A New Source of Free Hydroxyl Radicals in Solutions," report presented at the All-Union Conference on Chemical Kinetics, 23 June 1955.

Nature (British publication), Vol. 178, No.4524, 14 July 1956, p. 101

KASARNOVSKIY, I., LIPKHN, N. and TIKHOMIROV, M.

"Isotopic Exchange of Oxygen Between Free Hydroxyl Radicals and Water,"
Nature (British publication), Vol. 178, No.4524, 14 July 1956.

English article.

Laboratory for Inorganic Chemistry, Karpov Inst. of Physical Chemistry, Moscow

KAZARNOVSKIY I A

2

"APPROVED FOR RELEASE: 06/13/2000

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APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721330003-2"

KAZARNOVSKIY I.A.

AUTHOR:

None Given

TITLE:

Awards of the Gold Medal and of Nominal Prizes (Prisuzhdeniye zolotoy medali i imennykh premiy)

30-2-33/49

PERIODICAL:

Vestnik Akademii Nauk SSSR, 1950.
(USSR)

Nr 2, PP 95-95

ABSTRACT:

By resolution of the Presidency of the AN USSR the Gold Medal imeni V. V. Dokuchayev was awarded to A. A. Rode, Doctor of Agricultural Sciences for his publication "The Soil Moisture". Nominal Prizes of 20000 roubles each were distributed as follows:

- 1) The award imeni D. I. Mendeleev to the Corresponding Member of the AS USSR I. A. Kazarnovskiy and to the Candidate of Chemical Sciences G. P. Nikol'skiy (posthumously) for their publication "The Discovery and Investigation of the Ozonides of Alkaline Metals";
- 2) The award imeni M. V. Lomonosov for 1957 to a group of authors consisting of Ye. M. Lifshits, Doctor of Physical-Mathematical Sciences, B. V. Deryagin, Corresponding Member of the AN USSR, and I. I. Abrikosova, Candidate of Physical-Mathematical Sciences, for all their publications on the

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Awards of the Gold Medal and of Nominal Prizes

30-2-33/49

theoretical and experimental investigation of the molecular attraction between solid bodies;

- 3) The award imeni P. L. Chebyshev for 1957 to N. M. Korobov, Doctor of Physical-Mathematical Sciences for his publications: "Numbers With Limited Relations and Their Use in Problems of Diophantine Approximations", "On Perfectly Regular Distribution and Common Normal Numbers", "Approximate Calculation of Divisible Integrals by Means of the Numeral Theory Method";
- 4) The award imeni A. N. Bakha for 1957 to V. L. Kretovich, Doctor of Biological Sciences for his publication "The Foundations of Vegetable Biochemistry";
- 5) The award imeni I. I. Mechnikov for 1957 to M. A. Peshkov, Doctor of Biological Sciences for his publication "Cytology of Bacteria";
- 6) The award imeni V. L. Komarov for 1957 to a group of authors consisting of A. A. Fedorov, Doctor of Biological Sciences, M. E. Kirpichnikov, Candidate of Biological Sciences, and Z. T. Artyushenko, Candidate of Biological Sciences for their publication "Atlas of the Descriptive Morphology of Higher Vegetables. The Leaf.";
- 7) The award imeni I. P. Pavlov for 1957 to A. I. Karanyan, Doctor of Medical Sciences for his publication "Evolution of

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Awards of the Gold Medal and of Nominal Prizes

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the Functions of the Cerebrum of the Cerebellum";
8) The award imeni P. P. Anosov for 1957 to A. I. Skakov,
Doctor of Technical Sciences (posthumously) for his publi-
cation "The Quality of Railroad Rails".

AVAILABLE:

Library of Congress

1. Scientific personnel-Awards-USSR
2. Awards-USSR
3. Scientific research-Awards-USSR

Card 3/3

INFORMATION, 1-11

AUTHOR: None Given SOV/62-58-8-22/22

TITLE: The General Meeting of the Department of Chemical Sciences of the AS USSR From April 24 to 25, 1958 (Obshcheye sobraniye otdeleniya khimicheskikh nauk AN SSSR ot 24-25 aprelya 1958 g.)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 8, pp. 1017 - 1018 (USSR)

ABSTRACT: At this General Meeting the following scientists delivered lectures: The Corresponding Members, Academy of Sciences, USSR, A. A. Grinberg, I. A. Kazarnevskiy, A. D. Petrov, and R. Kh. Freydlina, Doctor of Chemical Sciences. A. A. Grinberg reported on the new knowledge on the kinetics and the mechanism of the reactions of the exchange and the substitution in complex compounds of platinum. Based on experimental data the lecturer concluded that in the process of the isotopic exchange in the derivatives of bivalent palladium the dissociation and association mechanism play an important role. These explanations raised a vivid discussion in which mainly I. I. Chernyayev, Member, Academy of Sciences, USSR and the Corresponding Members, Academy of Sciences, USSR V. I. Spitsin, Ya. K. Syrkin, I. V. Tananayev, and A. D. Gelman, Doctor of Chemical Sciences, took part. I. A.

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The General Meeting of the Department of Chemical Sciences of the AS USSR
From April 24 to 25, 1958

SOV, 62-58-9 22/22

Kazarnovskiy held a lecture on the investigations of the kinetics and the mechanism of the arbitrary decomposition of potassium ozonide (employing the magnetic method) carried out by himself and his collaborators (S. I. Reykhshteyn and L. N. Bykova, Candidates of Chemical Sciences). A. D. Petrov on behalf of the collaborators of the Institute of Organic Chemistry (V. F. Mironov, V. A. Ponomarenko, S. I. Sadykh-Zade and Ye. A. Chernyshev) reported on "The Synthesis of New Forms of Silicon Containing Monomers". He announced new results of investigations of the catalytic binding of hydride silanes with unsaturated and aromatic compounds not published up to now. In the discussion following this lecture V. V. Korshak, Corresponding Member, Academy of Sciences, USSR, said that the results obtained by the team of A. D. Petrov were of great importance. The corresponding conclusions had to be drawn from the influence exerted by silicon in the various groups on the reactivity of these compounds. The report delivered by R. Kh. Freydlina on "The Homolytic Isomerization in Solutions" raised great interest. This lecture was followed by a vivid exchange

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SOV/62-58-8-22/22
The General Meeting of the Department of Chemical Sciences of the AS USSR
From April 24 to 25, 1958

of opinions in which mainly the following Members, Academy of Sciences, USSR took part: I. L. Knunyants, A. N. Nesmeyanov, and N. N. Semenov, as well as the Corresponding Members, Academy of Sciences, USSR V. V. Nekrasov, Ya.K. Syrkin and A. D. Petrov. I. L. Knunyants said that the work carried out by R. Kh. Freydlina on the homolytic isomerization in solutions represented an important event in organic chemistry.

Card 3/3

AUTHORS: Kazarnovskiy, I. A., Corresponding Member, Academy of Sciences of the USSR, Lipikhin, N. P., Tikhomirov, N. V. SOV/20-120-4-50467

TITLE: Isotopic Exchange of Oxygen Between the Free Hydroxyl Radical and Water (Izotopnyy obmen kisloroda mezdu svobodnym gidroksil'nym radikalom i vodoi)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 5, pp.1048-1051 (USSR)

ABSTRACT: The free hydroxyl radical plays an important role in radiation chemistry and in the theory of the oxidation processes, as it is an intermediate. Only few and contradicting data exist on its reactivity (Refs 1 - 4). The authors investigated the reaction mentioned in the title ($O^{16}H + H_2O^{18} \rightarrow H_2O^{16} + O^{18}H$). Potassium ozonide was used as a new source of the free OH radical (Refs 5, 6). The potassium ozonide is instantaneously decomposed by water at room temperature and at 0° under violent oxygen separation. The reaction velocity of the hydroxyl amounts to the 4-5fold of its dimerization velocity. The experiments showed that the oxygen produced in this reaction is enriched with the isotope O^{18} . The reaction was carried

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Isotopic Exchange of Oxygen between the Free Hydroxyl Radical and Water

out in the apparatus (Fig 1 a). Table 1 contains the results of the determination of the isotopic composition of the oxygen which escapes during the decomposition of potassium ozonide by heavy water, as well as the found degree of exchange. The degree of exchange between the free OH-radical and water at $+20^{\circ}$ and at 0° amounts to approximately 10% and is independent of the pH of the solution, as is shown. This confirms the actual exchange between the free OH and H_2O and not that between the OH^- ions and the hydroxyl radicals. Moreover the isotopic composition of the oxygen in the escaping peroxide was determined. It was found that the enrichment of H_2O_2 with isotope O^{18} was several times greater than that of oxygen liberated directly during the decomposition of KO_3 by heavy water. Table 2 shows data on the isotopic composition of oxygen in the superoxide. It can be seen from this that this oxygen is enriched with the isotope O^{18} by 2.5-3.7-fold (3 times on the average). These results support the assumption that during the decomposition of KO_3 with water, free OH-radicals actually form H_2O_2 . The experiments of the authors disprove Winton's (1957) opinion that the radical diffuses according to a normal and not according to the

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5(2)

AUTHORS:

~~Kasarnovskiy~~, I. A., Corresponding Member, Academy of Sciences, USSR, Raykhshteyn, S. I.,
Bykova, L. N. SOV/20-123-3-26/54

TITLE:

Investigation of the Reaction Mechanism of Spontaneous Decomposition of Potassium Ozonide by the Magnetic Method
(Issledovaniye mekhanizma reaktsii samoproizvol'nogo raspada ozonida kaliya s primeneniye magnitnogo metoda)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 475-478
(USSR)

ABSTRACT:

It is seen from the kinetics of the reaction under review (Ref 1) that this reaction takes place according to the equation
$$2 \text{KO}_3 = 2 \text{KO}_2 + \text{O}_2 + 11.6 \text{ kcal.}$$
It is autocatalytic and its induction period amounts at 18, 0, -9, -18°, respectively, to 1.67, 20, 54, 205 days (24 hours each), respectively. In the subsequent active period the decomposition rate of potassium ozonide increases rapidly; the activation energy is 22-23 kcal/mol. The magnetic measurements were carried out at the same time as the kinetic ones at 18-20° and 0°. As is known, the initial and final product are of paramagnetic nature. Both products had

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Investigation of the Reaction Mechanism of
Spontaneous Decomposition of Potassium Ozonide by the Magnetic Method

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χ_g -values which were largely in accordance with previous data (Refs 2-4). Table 1 and figure 1 present the results of some measurements (in which V. I. Smirnova assisted). The deviations from the additivity indicate the formation of a highly paramagnetic intermediate product. This might be most probably the atomic oxygen the magnetic susceptibility of which exceeds several times that of KO_3 and KO_2 . An intermediate formation of oxygen atoms was confirmed by the separation of ozone traces which had oxidized the surface of the mercury in the manometer tube. The quantity of atomic oxygen in various stages of the process may be determined according to the data concerning magnetism and according to the weight of the solid reaction products. For this purpose equations are suggested. The values computed according to them (for one of the experiments) are presented in table 2. It may be seen from them that the content of atomic oxygen in the solid phase increases at the beginning of the decomposition, surpasses a maximum at a KO_3 decomposition of 60% approximately, and afterwards drops to zero at a 100% decomposition.

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Investigation of the Reaction Mechanism of
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When the maximum is exceeded, the solid phase contains about 15% of the total amount of atomic oxygen; it attains its maximum quantity (up to 25%) towards the end of the induction period and at the beginning of the active period. This result confirms the hypothesis (Ref 1) regarding the nature of the induction period which is based on the theory of defective crystalline structures. Further experiments have proved that: a) the formation of molecular oxygen forms a first order reaction with respect to atomic oxygen (Fig 2). Therefore, a recombination mechanism is improbable, and a reaction of the oxygen atoms with the ozonide ions is more probable: $O + O_3^- = O_2^- + O_2$. The further kinetic analysis displays the same regularity for the formation rate of atomic oxygen as that valid for the separation rate of molecular oxygen: a curve with a distinctly marked topochemical maximum (Fig 3). Thus, both of the elementary decomposition processes of KO_3 into KO_2 and oxygen take place mainly at the phase-separation boundary. There are 3 figures, 2 tables, and

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Investigation of the Reaction Mechanism of
Spontaneous Decomposition of Potassium Ozonide by the Magnetic Method SOV/20- 123- 3- 26/54

5 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im.
L. Ya. Karpova (Scientific Physico-Chemical Research Institute
imeni L. Ya. Karpov)

SUBMITTED: August 14, 1958

Card 4/4

KAZARNOVSKIY, I.A.; LIPIKHIN, N.P.; KOZLOV, S.V.

Reaction of free hydroxyl radicals and oxygen with acetic acid vapors. Izv.AN SSSR Otd.khim.nauk no.5:956 My '63. (MIRA 16:8)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(No subject headings)

KAZARNOVSKIY, I. A.

"Recent experiments concerning the reactivity of the free hydroxyl radical."
report submitted for 10th Anniversary Festivities, Leuna-Merseburg Tech Inst
for Chemistry, Leuna-Merseburg, E. Germany, 2-7 Nov 64.

FEDORENKO, N.P., akademik; SUKACHEV, V.N., akademik; KARAKHEYEV, K.K.; FRANK, G.M.; KONSTANTINOV, B.P., akademik; ASTAUROV, B.L.; YEFIMOV, A.N.; SHUMILOVSKIY, N.N.; ISHLINSKIY, A.Yu., akademik; GERASIMOV, I.P., akademik; KAZARNOVSKIY, I.A.; BYKHOVSKIY, B.Yu., akademik; ZHEBRAK, A.R., akademik

Discussion of the annual report. Vest.AN SSSR 35 no.3:95-112
Mr '65.

(MIRA 18:4)

1. Prezident AN Kirgizskoy SSR (for Karakeyev).
2. Chleny-korrespondenty AN SSSR (for Frank, Astaurov, Yefimov, Kazarnovskiy).
3. AN Kirgizskoy SSR (for Shumilovskiy).
4. AN BSSR (for Zhebrak).

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CIA-RDP86-00513R000721330003-2"

be explained on the basis of the following reactions:



KAZARNOVSKIY, I. M. Cand. Med. Sci.

Dissertation: "Differential Diagnosis Between Acute Appendicitis and Renal Colic."
Central Inst. for Advanced Training of Physicians. 8 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)

KAZARNOVSKIY, I. M.

25930 Kazarnovskiy, I. M. Vnutrivennaya urografiya kak metod differentsial', noy diagnostiki mezhdyy ostrym appenditsom i pochechnoy kolikoy. Sbornik nauch. rabot lecheb. uchrezhdeniy Mosk. voyen. okr. Gor'kiy, 1948, s. 130-39.

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948.

21Ch2 Kayarnovskiy, I. K. Zamenitel'naya Genotransfuziya Pri Ostrer
Nefrite. Sbornik Nauch. Rabot Lecheb. Uchrezhdeniy Mosk. Vost. n.
OKL. Gor'kiy, 1948, S. 140-46

LC: Letopis' Zhurnal Staley, No. 30, Moscow, 1948

Kazarnovskiy, I. M.

25957 Kazarnovskiy, I. M. Raneniye poloy veny pri nefrektomii. Sbornik
nauch. rabot lecheb. uchrezhdeniy Mosk. Voen. okr. Gor'kiy,
1948, s. 153-56.

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

KAZARNOVSKIY, I.M.

Renal-appendicular syndrome. Khirurgia, Moskva no.5:62-67 May 51.
(CML 20:9)

1. Lt Col., Medical Corps and Candidate Medical Sciences.

KAZARNOVSKIY, I.M., kandidat meditsinskikh nauk (Moskva)

Combined diseases of the kidneys in nephrolithiasis. Urologia
no.1:62-66 Ja-Mr '55. (MLRA 8:10)

(KIDNEYS, calculi,
compl.)
(CALCULI,
kidneys, compl.)

USSR / Pharmacology. Toxicology. Vitamins.

V

Abs Jour : Ref. Zhur - Biologiya, No. 5, 1959, 13974

Author : Kazarnovskiy, L. S.

Inst : Kharkov Pharmaceutical Institute

Title : A drug from the Wild Rose "Kholokaz".

Orig Pub : Tr. Khar'kovsk. farmatsevt. in-ta, 1957, vyp. 1,
277-282

Abstract : No abstract

Card 1/1

KAZARNOVSKIY, L.S.

BORISYUK, Yu.O.; KAZARNOVSKIY, L.S.; KRASOVSKIY, N.P. [deceased];
SEMIN'KO, V.A.

Kharkov Pharmaceutical Institute on the 40th anniversary of the
Great October Socialist Revolution. Apt.delo 6 no.6:10-13 N-D '57.
(KHARKOV--PHARMACY--STUDY AND TEACHING) (MIRA 10:12)

KAZARNOVSKIY, L.S.

GUREVICH, V.G.; KAZARNOVSKIY, L.S.; KARAVAY, N.Ya.

Preventing scale formation in distillation apparatus during the
production of distilled water in pharmacies. Apt.delo 7 no.2:43-44
Mr-Ap '58. (MIRA 11:4)

1. Iz Khar'kovskogo farmatsevticheskogo inatituta.
(DISTILLATION APPARATUS)

KAZARNOVSKIY, L.S.; LOMHVITSKAYA, M.F.; LYSENKO, L.V.; PIVNENKO, G.P.;
SERGEYENKO, T.A.; SILA, V.I.; SOTNIKOVA, O.M.; CHUYKO, O.V.

Comparison of methods for preparing and analysing infusions [with
summary in English]. Apt.delo 8 no.1:64-71 Ja-F '59.

(MIRA 12:2)

1. In Khar'kovskogo farmatsevticheskogo instituta (dir. - dots.
Yu.G. Borisyuk) Ministerstva zdavookhraneniya USSR.

(EXTRACTS)

KAZARNOVSKIY, L.S.; SHINYANSKIY, L.A.

Influence of ultrasound on liquid aqueous extracts. Med.prom.
14 no.3:38-41 Mr '60. (MIRA 13:6)

1. Khar'kovskiy farmatsevticheskiy institut.
(ULTRASONIC WAVES--PHYSIOLOGICAL EFFECT)
(DRUGS--PRESERVATION)

ZIKOVA, N.Ya. [Zykova, N.IA.]; KAZARNOVSKIY, L.S. [Kazarnovs'kiy, L.S.];
SOLON'KO. V.N.; SHINYANSKIY, L.A. [hynians'kiy, L.A.]

Preparing extracts with the use of ultrasonic waves. Farmatsev.
zhur. 16 no.4:15-16 '61. (MIRA 17:6)

1. Khar'kovskiy farmatsevticheskiy institut.

PIVENKO, G.P.; SUKHOMLINOV, A.K.; KAZARNOVSKIY, L.S.

Planned curriculum for pharmaceutical institute: (faculties).
Apt. delo. 11 no.5:48-51 S-O '62. (MIRA 17:5)

1. Khar'kovskiy farmatsevticheskiy institut.

Card 1/2

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut (Kharkov Institute of Pharmacy)

SUBMITTED: 13Apr64

ENCL: 00

NR REF SGT: 001

OTHER: 000

Card 2/2

SERGIYENKO, T.A.; KAZARNOVSKIY, L.S.

Phytochemical study of *Acinon thymoldea* Moench. *Appl. deio* 14
no.2:31-33 Mr-Apr '65. (MLA 1961)

1. Khar'kovskiy farmatsevticheskiy institut. Submitted
February 14, 1964.

The effect of cold-working with subsequent annealing on the magnetic properties of soft iron. A. S. Zamovskii and I. Sh. Kazanovsky. *Kachestvennyi Stal* 4, No. 7, 41-51 (1960); *Chem. Zvesti.* 1937, 1, 3051. Expts. are reported on the effect of cold deformation of 0.5-99.98% on the residual magnetism, coercive force and permeability of Armcoiron. By a slight plastic deformation of 0.5-3%, the residual magnetism was reduced to 4500 gaussess without any essential increase in the coercive force. By a marked deformation and annealing at temps. of beginning recrystn. the residual magnetism was increased again to 17,500 gaussess. When a specimen which had undergone a deformation of 45% was annealed in H₂ 1 hr. at 850° 1000°, the coercive force was reduced to 50-60% of the value which the specimen would have possessed following the usual annealing treatment. Annealing 1 hr. in N₂ at the same temp. reduced the coercive force only to 80% of the value after normal annealing treatment. M. G. M.

Transformer plates with high magnetic permeability along the direction of rolling. A. S. Zaimovskiy and L. Sh. Kazanovskiy, *Kachestvennyy Skl* 6, No. 8, 9, 10 22 (1936); *Chem. Zentr.* 1937, I, 2245. — Studies are reported on the texture of transformer Fe with 3.4% Si after cold-rolling and subsequent annealing. With only one rolling and one annealing under no conditions could a texture be obtained with the crystal axis (100) along the direction of rolling. This condition was first obtained through cold-rolling twice with a decrease in thickness of 10-15% and annealing twice at 1050-1100°. For transformer metal the permeability values at an induction of 16,000 (17,000) gaussers are 1.5 to 3 times higher than those of the best specimens of normal transformer steel. Metallographic and x-ray investigations indicated that the crystal structure no obtained satisfies the specifications of Saxus and Bazzeth.

M. G. Mauer

M G Meyer

PROCESSING AND PROPERTIES INDEX

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Thin Sheet Manganese-Aluminum Steel for High-Frequency Generators. A. S. Zaymovskiy, I. Sh. Kazarnovskiy, A. S. Boleukh and A. A. Babakov. (Kachestvennaya Stal, 1937, No. 7, pp. 41-48). (In Russian). Two steels containing 1.0-2.8% of manganese and 3.5-6.5% of aluminium were used, and the properties were compared with those of silicon steel containing 3.4-4.1% of silicon. It was found that the magnetic and electrical properties of the manganese-aluminium steels closely resembled those of the silicon steel, whilst they had the advantage of being more easily cold-rolled. These steels may therefore be regarded as a possible substitute for silicon steels for making thin sheet laminations for high-frequency generators.

ASB-SEA METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION	INDEX	DATE	REMARKS
1000	1	1937	
1000	2	1937	
1000	3	1937	
1000	4	1937	
1000	5	1937	
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1000	100	1937	

PRECEDENCE AND PRIORITY INDEX		PRECEDENCE AND PRIORITY INDEX	
Investigation and Production of High Permeability Iron-Nickel Alloys. A. N. Zaymovskiy and L. Sh. Kuznetsovskiy. (Kachestvennaya Stal, 1938, No. 3, pp. 37-42). (In Russian). Iron-nickel alloys with about 50%, 65% and 78.5% of nickel were prepared and their heat treatment and magnetic properties were investigated. Ordinary Armco iron and nickel shot, which had not been vacuum melted, were used and the alloys were made by melting in a 50 kg. H.F. induction laboratory furnace. The ingots were forged into billets 200 x 600 x 25 mm., which were hot-rolled down to sheet 1.1-3 mm. thick and finally cold-rolled down to 0.30 mm. thick. The material was annealed in a hydrogen atmosphere at 1000-1200 °C. for 2-10 hr. and then cooled at different rates. After annealing, the specimens were found to have the following magnetic properties:			
Alloy.	Initial Permeability.	Max. Permeability.	
50/50 nickel-iron	2,000-3,000	55,000-60,000	
65/35 nickel-iron	3,800-5,500	130,000-270,000	
78.5/21.5 nickel-iron	6,000-12,000	120,000-170,000	
In spirally-wound transformer cores weighing 2-3 kg. the 78.5% nickel Permalloy had an initial permeability of 4,000 and a maximum permeability of 57,000. Owing to the experimental nature of the work there was as much as 50% of scrap, and this made the cost of the material comparatively high.			
ASB SLA DETAILURGICAL LITERATURE CLASSIFICATION			
SUBJECT INDEX		PREFACE INDEX	
SUBJECT INDEX		PREFACE INDEX	

C.P.

PROCESSES AND PROPERTIES INDEX

9

Production of permalloys. A. S. Zaimovskii, L. Sh. Kazarnyuskii, K. V. Nashedelkin and V. P. Arkhipov. Elektricheskie 1940, No. 3, 41-5. - The compns. and magnetic properties of permalloys prodn. in 2x0 240 kg. capacity induction furnace are described. The perm-alloys were of the 50% Ni, 65% Ni, 75.5% Ni and 2.0% Mo, 74% Ni and 3% Cr, 74% Ni and 6% Cu types. Only the AlNi permalloy showed a high specific elec. resistance and magnetic properties not below those of the imported alloys. The Cu alloy showed high magnetic characteris-tics but low elec. resistance. B. Z. Kamich

A.S.B.-S.E.R. METALLURGICAL LITERATURE CLASSIFICATION

LEON...
SECHENOV ...
BRISTOLITE
BRISTOL GUN ONE ISI

NATURALIS NOTAE

COMMON ELEMENTS

COMMON TRANSITION METALS

ZAYMOVSKIY, A.S., professor, doktor tekhnicheskikh nauk; ^{L.} KAZAKHOVSKIY, A.Sh.,
inshener; KIPER, I.I., inshener.

Pressed magnets. Vest.elektroprom. 18 no.5:19-22 '47. (MLRA 6:12)

1. Nauchno-issledovatel'skiy institut MEK.

(Magnets)

KAZARNOVSKIY, I. Sh.

"Pressed Magnets." Thesis for degree of Cand. Technical Sci. Sub 28 Jun 49, Scientific Council of Sci Res Inst. Ministry of Electrical Industry USSR

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

KAZARNOVSKIY, L. Sh.

"Development of Magnetic Materials," Elektrichestvo, No.6, 1949

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538 211 : 621.318.22

7149. Relations between the magnetic characteristics of macroheterogeneous magnetically-hard systems. AITMAN, A. B., KAZARINOV, L. S. and MIMINOV, V. I. J. Tech. Phys., USSR, 19, 560-6 (May, 1949) In Russian.—The investigation was connected with the Fe-Ni-Al alloy permanent magnets produced by powder metallurgy. Systems of this kind, consisting of (1) a magnetically hard and a non-magnetic phase, (2) a hard and soft phase, (3) two different hard phases, were investigated. Remanent flux density B_r and coercive force H_c were measured as functions of the phase composition (quantity ratio of phases). It was found that the increase of the concentration of the non-magnetic phase, while reducing the remanent magnetism, does not alter the coercive force, whereas in the hard-soft mixed system the increase of the soft phase reduces both B_r and H_c . A direct proportionality between phase-relation and B_r was found to exist in the mixture of 2 hard materials; the coercive force decreases with increasing content of the phase of lower H_c , but does not follow a linear law. M. I. K.

ASB 51.4 METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

KAZARNOVSKIY, L. SH.

USSR/Physics - Magnetic Materials

Mar 52

2447104
"Calculation of the Magnetic Properties of Macroheterogeneous Magnetically-Hard Systems," L. Sh. Kazarnovskiy

"Zhur Tekh Fiz" Vol 22, No 3, pp 537-542

Gives a method for calculating the coef of self-de-magnetization of macroheterogeneous magnetically-hard systems [author's term for pressed or metal-plastic magnets made by pressing a powder consisting of a crushed high-coercive alloy and a non-magnetic binding material]. Also obtains dependency of this coefficient upon content of ferromagnetic phase and

2447104

Gives a method for constructing the hysteresis loop of such magnets. Submitted 10 Sep 51.

2447104

ZIFER, Isak Iosifovich; PANTYUSHIN, Vasilii Sergeyevich; KAZARNOVSKIY,
L. Sh, redaktor; FRIDKIN, A.M. tekhnicheskiy redaktor

[Testing ferromagnetic materials; magnetic measurements] Ispytaniia ferromagnitnykh materialov; magnitnye izmereniia. Moskva,
Gos. energ.izd-vo, 1955. 240 p. (MLRA 8:8)
(Ferromagnetism)

AID P - 3450

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 17/32

Author : Kazarnovskiy, L. Sh., Kand. of Tech. Sci.

Title : The new standard for electrical sheet steel

Periodical : Elektrichestvo, 10, 63-66, 0 1955

Abstract : The author compares the old GOST 802-41 with the new GOST 802-54. The new standard includes ordinary hot-rolled steel and cold-rolled magneto-anisotropic steel. The marking of steel types is numerical instead of by letter. The assortment of sheets is greatly enlarged, but some little used sizes are dropped.

Institution : Scientific Research Institute of the Ministry of Electrical Industry

Submitted : Mr 14, 1955

KALAKNOYSKIY, L. Sh.

KAZARNOVSKIY, L.Sh., kand. tekhn. nauk; LEONT'YEV, Ye.V., inzh.

Astatic electrodynamic coercive force meter. Vest. elektroprom.
27 no.8:27-31 Ag '56. (MLRA 10:9)

1. Nauchno-issledovatel'skiy institut Ministerstva elektrotekhnicheskoy promyshlennosti.
(Magnetic instruments)

USOV, Vladimir Vasil'yevich; ZAYMOVSKIY, Aleksandr Semenovich;
KAZARNOVSKIY, L.Sh., red.; VORONIN, K.P., tekhn.red.

[Conductor, rheostat and contact materials] Provodnikovye
reostatnye i kontaktnye materialy. Moskva, Gos.energ.isd-vo,
1957. 184 p. (Metally i splavy v elektrotekhnike vol.2)

(MIRA 11:1)

(Electric engineering--Materials)

KAZARNOVSKIY, L. Sh.

Call Nr: None given

AUTHORS: Zaymovskiy, A. S., Chudnovskaya, L. A.
 TITLE: Magnetic Materials (Magnitnyye materialy). Vol. 1.
 PUB. DATA: Gosudarstvennoye energeticheskoye izdatel'stvo,
 Moscow-Leningrad, 1957, 224 pp., 8,000 copies.
 ORIG. AGENCY: None given
 EDITORS: Ed.-in-Chief: Kazarnovskiy, L. Sh.; Tech. Ed.:
 Voronin, K. P.
 PURPOSE: This monograph is intended for engineers and workers
 in the electrical and instrument producing industries,
 as well as for metallurgists, metallo-physicists and
 metallographers.

Card 1/10

Magnetic Materials (Cont.)

Call Nr: None given

COVERAGE:

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The book is devoted to the properties of metals, alloys and compositions and to their behavior under operational conditions, and to the effect on their properties due to composition and processing in the consumer plants. Vol. I describes the general laws which connect composition and structure with magnetic properties of ferromagnetic materials and the more important industrial magnetic alloys: technically pure iron, electrical sheet steels, and special alloys, such as Permalloy, Permendur, Alsiifer, ferrites, magneto-dielectrics and alloys and compositions for permanent magnets. Structural material used in electric machinery and apparatus is briefly discussed including carbon and alloy steels as well as nonmagnetic steels and cast iron. Vol. II will deal with materials for conductors; rheostats and contacts. Soviet and foreign contributions are noted. The following Soviet scientists are mentioned in the foreword in connection with their valuable contributions to the field of magnetism: Akulov, N. S.; Vonzovskiy, S. V.; Kondorskiy, Ye.I.; Landau, L. D.; Lifshits, Ye. M. References are given at the end of every chapter except Ch. 2. There are 235 references, 135 of which are USSR.

Card 2/10

110-1-11/19

AUTHOR: Kazarnovskiy, L.Sh., Candidate of Technical Sciences

TITLE: Materials for the Rotors of Hysteresis Motors (Materialy dlya rotorov gisteretiziruyemykh elektrodvigateley)

PERIODICAL: Vestnik Elektromyshlennosti, 1958, Vol.29, No.1, pp. 48 - 56 (USSR).

ABSTRACT: Until recently only low-power hysteresis motors were manufactured in the USSR. Extensive developments in automatics and telemechanics make it necessary to complete the development of a series of synchronous hysteresis motors of outputs up to 100 kW at 1 500 r.p.m. and to commence their mass-production. The conditions of operation of magnetically-hard materials in the rotor of a hysteresis motor are quite different from those of permanent magnets used in synchronous motors. Therefore, the usual criteria of desirable properties do not apply. The first attempt to formulate the requirements for materials for hysteresis motors were made by Jüschke; Roters and Kolkiewicz did not carry the question much further. The requirements are formulated in the most detailed manner by Gorzhevskiy (Vestnik Elektromyshlennosti, 1957, No.8). The present article makes a comparative evaluation of magnetically-hard material as applied to the more common design of motor in which the rotor Card1/5 is mainly subjected to cyclic re-magnetisation in a symmetrical

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hysteresis cycle.

The first criterion of the material is the shape of the hysteresis curve. Ideally, the cycle should be elliptical; the nearest practical approach is a parallelogram with the steepest possible vertical sides and angles near 90° . Three other criteria are given, the last of which is the B/H curve. The four criteria taken together are called the hysteresis characteristics of the material.

As there is very little published data about the hysteresis characteristics of magnetically-hard materials, the authors investigated a number of materials and also reviewed available published data. New methods of heat-treating known materials were developed and new high-coercivity alloys were developed in the iron-nickel-aluminium-cobalt-copper series for use in the rotors of hysteresis motors. The measurements and heat treatments were done by A.A. Agafonov and A.I. Stroganova. The first materials considered are martensitic steels, the characteristics and properties of which are given in Table 1 and in Figs. 1, 2 and 3. The best heat-treatments for chrome steels were determined. The best field intensity for chrome steels is in the range 70 - 100 Oe. Tungsten steel E7B6 is in

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all respects superior to chrome steel. Cobalt steels are as good as tungsten steels, but the best field values are higher and in the range 100 - 550 Oe, depending on the cobalt content. The hysteresis characteristics of high-coercivity alloys of the system iron-nickel-aluminium-cobalt-copper are given in Table 2 and in Figs. 4 and 5. The data shows that the usual high-coercivity alloys have very high hysteresis losses. Brief mention is made of the influence of composition on the loss. Investigations were made on cold-worked magnetically-hard alloys. Copper-nickel-iron alloy has long been used for permanent magnets. The author's tests on alloy M~~X~~H gave similar results (see Table 3 and Figs. 6 and 7) to those obtained by Jäschke on similar alloys.

Alloys of iron-cobalt-molybdenum were studied in detail by W. Köster and others. The best results were obtained with alloys of 15 and 17.5% molybdenum. The hysteresis characteristics are given in Table 3 and Figs. 7 and 8. Alloys of iron-nickel-manganese require cold working and, therefore, can only be used in the form of cold-rolled sheet. A study was made of the influence of annealing. Hysteresis characteristics are given in Table 3 and in Figs. 6 and 7.

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An alloy of iron-cobalt-vanadium is one of the most easily worked materials for the manufacture of permanent magnets. However, the first attempts to use this alloy for rotors of hysteresis motors were unsuccessful. A study was, therefore, made of the possibility of modifying the hysteresis characteristics of the alloy and an appropriate heat treatment was devised. Data about the hysteresis characteristics of the alloy are given in Table 3 and Figs. 9 and 10. A comparison is then made between the merits of the different alloys. Magnetically isotropic alloys are of benefit only in two pole motors; in other cases, the anisotropy is of no advantage. The comparative evaluation of the materials which is given in this article is based on criteria which have not been fully proved in practical experience. Moreover, the data of different authors sometimes differ because of different measuring procedures and the small number of results. Therefore, the investigation of promising materials should be considered in more detail. An account is given of the ease of manufacture of the different materials considered. Finally, an analysis is made of cost and supply position. The cheapest and most readily available materials are chrome steels.

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Tungsten steel is about fifteen times the price of chrome steel. Cobalt steels are still more expensive and scarce. The other materials are similarly analysed in turn, with the conclusion that the most expensive and scarce alloys are those of iron-cobalt-vanadium containing 52% of cobalt. There are 10 figures, 3 tables and 7 references, 1 of which is Russian, 1 English and 5 German.

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SUBMITTED: May 6, 1957

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Card 5/5